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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,699	12/23/2003	Akira Mori	64903-022	5496

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EXAMINER

SEVERSON, JEREMY R

ART UNIT	PAPER NUMBER
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3653

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/743,699

Applicant(s)

MORI ET AL.

Examiner

Jeremy R. Severson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-6 and 8-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6 and 8-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12/12/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

The claim rejections are maintained or modified as follows:

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 4 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 4 depends from claim 3, which is a canceled claim. For the purpose of expediting prosecution, the claim will be examined in the remainder of this action as if it depended from claim 1.
4. Claim 16 recites the limitation "the multiple different positions" in line 4 of the claim. There is insufficient antecedent basis for this limitation in the claim. "The" should be deleted from line 4, and added to line 13.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, 4-13, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wildenrath (GB 1326665) in view of Numata (US 2002/0015145).

7. Re claim 1, Wildenrath discloses a discrimination apparatus that detects a counterfeit paper, said discrimination apparatus comprising: an ultraviolet emission module (2) that irradiates a paper as an object of discrimination with ultraviolet radiation; a transmitted light measurement module (12) that measures intensity of transmitted light of ultraviolet radiation, which is transmitted through the paper; and a discrimination module (23, 24, 25) that determines the paper as counterfeit or as genuine, based on the observed intensity of the transmitted light; wherein said transmitted light measurement module measures the intensity of the transmitted light at multiple different positions on the paper, and said discrimination module determines the paper as counterfeit or as genuine, based on measurement results at the multiple different positions (p. 4, col. 2, lines 87-95); and wherein the paper is determined as genuine, when at least a predetermined rate of the observed intensity of the transmitted light of ultraviolet radiation at the multiple different positions is included in the allowable range. See Wildenrath, p. 2, lines 29-92. Wildenrath does not explicitly disclose a pattern storage unit for performing the above function. Numata teaches a pattern storage unit (20) for determining the genuineness of the note in accordance with a plurality of wavelengths inputted into the processor. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a pattern storage unit in the apparatus of Wildenrath, as taught by Numata, in order to determine the genuineness of the note.

8. Re claim 2, Wildenrath as modified by Numata comprises a discrimination apparatus in accordance with claim 1, said discrimination apparatus further comprising:

a fluorescence measurement module (3) that measures intensity of fluorescence, which is excited from the paper by the ultraviolet radiation, wherein said discrimination module determines the paper as counterfeit or as genuine, based on the observed intensity of the fluorescence as well as the observed intensity of the transmitted light.

9. Re claims 4 and 8-10, Wildenrath as modified by Numata comprises everything claimed, including a conveyor unit (4, 5) that conveys the paper relative to said ultraviolet emission module and said transmitted light measurement module facing each other, wherein the multiple different positions include a site set in a conveying direction.

10. Re claim 5, Wildenrath as modified by Numata comprises everything claimed, except that Wildenrath discloses an ultraviolet emission module with a single ultraviolet-emitting element, rather than multiple ultraviolet-emitting elements. Numata teaches the use of multiple ultraviolet-emitting elements, in a case where the luminance of a single element is insufficient (par. 49). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use multiple ultraviolet-emitting elements in the apparatus of Wildenrath, as taught by Numata, in a case where the luminance of a single element is insufficient.

11. Re claim 6, Wildenrath as modified by Numata comprises everything claimed, except that Wildenrath does not explicitly disclose that the transmitted light measurement module has multiple transmitted light-receiving elements. Numata teaches the use of multiple transmitted light-receiving elements for collecting light into an electrical signal (par. 36). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use multiple transmitted light-

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receiving elements in the apparatus of Wildenrath, as taught by Numata, for collecting light into an electrical signal.

12. Re claim 7, Wildenrath as modified by Numata comprises a discrimination apparatus in accordance with claim 6, said discrimination apparatus further comprising: a pattern storage unit that stores in advance an allowable range of intensity of transmitted light measured at the multiple different positions to give a criterion of determination of a genuine paper, wherein said discrimination module determines the paper as genuine, when at least a predetermined rate of the observed intensity of the transmitted light at the multiple different positions is included in the allowable range (Numata, par. 39).

13. Re claim 11, Wildenrath as modified by Numata comprises a discrimination apparatus in accordance with claim 8, said discrimination apparatus further comprising: a visible radiation block filter (6) that excludes visible radiation from the light emission of said ultraviolet emission module, wherein said visible radiation block filter is located between said ultraviolet emission module and the conveyor path.

14. Re claims 12 and 13, Wildenrath as modified by Numata comprises a discrimination apparatus in accordance with claim 9, said discrimination apparatus further comprising: a visible radiation block filter (7) that is located between said transmitted light measurement module and the conveyor path to exclude visible radiation; and an ultraviolet radiation block filter that is located between said fluorescence measurement module and the conveyor path to exclude ultraviolet radiation.

15. Re claim 16, Wildenrath as modified by Numata comprises a discrimination method that detects a counterfeit paper, said discrimination method comprising: storing in advance an allowable range of intensity of transmitted light of ultraviolet radiation measured at multiple different positions to give a criterion of determination of a genuine paper; said transmitted light measurement step comprises measuring the intensity of the transmitted light of ultraviolet radiation at multiple different positions on the paper, and said discrimination step comprises determining the paper as counterfeit or genuine, based on measurement results at the multiple different positions, said discrimination step determines the paper as genuine, when at least a predetermined rate of the observed intensity of the transmitted light of ultraviolet radiation at the multiple different positions is included in the allowable range (Wildenrath, p. 2, lines 29-92; Numata, par 39), an ultraviolet emission step of irradiating a paper as an object of discrimination with ultraviolet radiation; a transmitted light measurement step of measuring intensity of transmitted light of ultraviolet radiation, which is transmitted through the paper; and a discrimination step of determining the paper as counterfeit or as genuine, based on the observed intensity of the transmitted light (Wildenrath, p. 4, col. 2).

16. Re claim 17, Wildenrath as modified by Numata comprises a discrimination method in accordance with claim 16, said discrimination method further comprising: a fluorescence measurement step of measuring intensity of fluorescence, which is excited from the paper by the ultraviolet radiation, wherein said discrimination step determines the paper as counterfeit or as genuine, based on the observed intensity of the fluorescence as well as the observed intensity of the transmitted light (p. 4, col. 2).

17. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wildenrath in view of Numata and Takarida (EP 0668576).

18. Re claim 14, Wildenrath as modified by Numata comprises everything claimed, including protective glasses (6, 7) that are respectively located between said ultraviolet emission module and the conveyor path and between said transmitted light measurement module and the conveyor path. Wildenrath does not explicitly disclose that said protective glasses are composed of a material that allows transmission of ultraviolet radiation but prohibits excitation of fluorescence by the ultraviolet radiation. Takarida teaches the use of such glasses in order to allow passage of ultraviolet rays and visible light but prevent dust and the like from entering (col. 4, lines 35-42).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to form the protective glasses of Wildenrath out of a material that allows transmission of ultraviolet radiation but prohibits excitation of fluorescence by the ultraviolet radiation, as taught by Takarida, in order to allow passage of ultraviolet rays and visible light but prevent dust and the like from entering.

19. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wildenrath, Numata and Takarida as applied to claim 14 above, and further in view of Liu (US 6407810).

20. Re claim 15, Wildenrath as modified by Numata and Takarida comprises everything claimed, but Wildenrath does not explicitly disclose that the filter reflects

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ultraviolet radiation. Liu teaches a filter that reflects radiation in order to direct the radiation away from the image capture device. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a reflective coat in the filter of Wildenrath as modified by Takarida, as taught by Liu, in order to direct the radiation away from the light detector.

Response to Arguments

21. Applicant's arguments filed 12 December 2006 have been fully considered but they are not persuasive.

22. Applicant argues that "Wildenrath merely discloses a single photo-receiver 12 located in a position to measure excitation radiation AS transmitted through the paper, and adequate to recognize a type of paper having wrong density or a crack" and does not disclose Applicant's claim feature of measuring "the intensity of the transmitted light of ultraviolet radiation at multiple different positions on the paper" (remarks, p. 11). The Examiner disagrees.

23. Wildenrath teaches "measuring the intensity of the transmitted light of ultraviolet radiation at multiple different positions on the paper." Wildenrath discloses on page 2, lines 59-65, that "[I]n the movement of the paper past the light source, several portions of the material are effective one after another to emit a fluorescence radiation so that a minimum number of signals may be determined to be characteristic for each type of paper for the purpose of the testing of the paper."

Conclusion

24. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy R. Severson whose telephone number is (571) 272-2209. The examiner can normally be reached on Monday through Friday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Mackey can be reached on 571-272-6916. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeremy R Severson
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